

ABSTRACT

Embodiments of the invention provide a method and apparatus for manufacturing dental aligners. The system includes a workpiece introduction system having at least one workpiece preparation chamber. The system further has a mold manipulation system, having a mold introduction chamber, where a series of different molds may be introduced one after the other; a mold preparation chamber; a workpiece operation chamber; and a mold manipulator to move the mold between the mold introduction chamber, the mold preparation chamber, and the workpiece operation chamber; and a workpiece manipulator to move the workpiece between the workpiece preparation chamber and the workpiece operation chamber. In operation, the method includes steps of inserting a first workpiece into a workpiece preparation chamber; preparing the first workpiece for processing by subjecting the first workpiece to at least one preparation process; moving the first workpiece into a workpiece operation chamber; moving a first mold into a mold preparation chamber; preparing the first mold for processing by subjecting the first mold to at least one preparation process; moving the first mold into the workpiece operation chamber; moving the first mold and the first workpiece into cooperative engagement; subjecting the first workpiece to a vacuum on the side of the first workpiece facing the first mold; and repeating the above steps for a second workpiece and a second different mold.